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REVIEW ARTICLE

Conjoint Therapy for the Treatment of Chronic Pain: A Descriptive Pilot Study of Couples' Needs

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Abstract

Objective: Chronic pain is a significant healthcare challenge for the United States. Most treatment and research has focused upon the chronic pain patient; however, partners of chronic pain patients report care-giver burden, poor relationship quality, and physical and psychological health problems. The authors propose a novel therapy for pain management that incorporates partners into pain treatment to improve relationship quality and pain management. The overall objective of this paper is to outline Conjoint Therapy for Pain Management, a behavioral treatment for chronic pain, and report descriptive pilot data from a Needs Assessment focused upon chronic pain patients and their partners to help refine the Conjoint Therapy for Pain Management treatment manual.

Methods: A Needs Assessment was conducted via focus groups with 4 couples (4 men; 4 women) for this descriptive, pilot study. Qualitative data was gathered using a semi-structured interview format. Data was recorded and analyzed using a method similar to that described in the 2015 New Hampshire Medicaid Management Focus Groups.

Results: Participants reported the positive and negative impact chronic pain had on their relationship and made suggestions for topics to include in Conjoint Therapy for Pain Management. Negative impact included difficulties with mood, decrease in social activities, sexual functioning/intimacy, and an exclusive focus on the pain. Positive aspects included improved support and patience within the relationship.

Conclusions: The Needs Assessment verified that couple functioning is impacted by chronic pain and that conjoint therapy may improve overall pain functioning. This pilot study provided information that was useful in revising the Conjoint Therapy for Pain Management treatment manual. Additions to the manual included topics on mood management, communication skills, sexuality/intimacy, problem-solving, and perspective taking.

Introduction

Chronic pain is a significant healthcare challenge for the United States, affecting approximately 100 million Americans (1) and resulting in more than \$600 billion in direct and indirect costs (2). In addition to its vast socioeconomic impact, chronic pain increases risk for psychological disability and distress. Individuals with chronic pain have elevated rates of depression (3), sleep difficulties (4), anger (5) and substance abuse (6). Through related physical and psychological disability, chronic pain also contributes to interpersonal distress, marital dissatisfaction and decreased social support (7).

Numerous studies suggest that families, especially spouses of patients with chronic pain, play a vital role in coping with this chronic illness (8). Family members of chronic pain patients report greater care-giving burden, lower relationship quality and satisfaction, and decreased physical and psychological health (9). Pain severity is positively associated with depressive symptoms and anxiety in spouses of chronic pain sufferers (10). Furthermore, previous findings clearly demonstrate an association between the psychological symptoms that co-occur with chronic pain (e.g., depression, substance use) and marital distress (3, 11-12).

Extant research examines the perception of pain upon marital relationships; however, little has been done to include partners in the actual psychological treatment of chronic pain. At the 8th Annual NIH Pain Consortium Symposium (13), Dr. Francis Keefe stated that "pain communication between spouses has been shown to be critical in the management of a person's pain." For example, negative spouse responses to pain are significantly related to increased functional impairment, reduced activity levels, psychosocial impairment (10) and increased pain severity (14). Given that couple-involvement is an important cata-

lyst for positive treatment outcomes for other chronic medical conditions (i.e., cardiac patients [15]; cancer [16]), there is a strong need to examine the potential contribution of a couple-based psychotherapeutic intervention for chronic pain.

Despite widespread acknowledgement of the significant impact of chronic pain on relationships, very little has been done to actually develop a treatment program that meaningfully combines these two concerns. A 2017 PubMed search for "pain management" and "couples" as Title or Abstract terms returns 24 publications, only three of which test the development of a pain treatment program tailored specifically to couples. In a study comparing spouse-assisted pain coping skills training to a patient-oriented approach, Abbasi and colleagues (17) found few differences between spouse-assisted and patient-oriented pain coping skills training. The described protocol for couples differed from the patient-oriented protocol by including one session on how a spouse can influence and be influenced by the patient's pain and by including the spouse in the same coping modules given to the patient. This protocol did not address relationship quality and, although relationship satisfaction was measured, the authors did not report any differences in the quality of the relationship after their spouse-assisted intervention. Miller-Matero and Cano (18) tested a motivational assessment in couples managing pain and found benefits in marital satisfaction, pain rating, mood, and empathy up to one month later. This finding is a strong indicator that a strong motivational component can be beneficial to treatment, but the outcomes described are supported by a single case example. Ramke, Sharpe, and Newton-John (8) tested a cognitive-behavioral therapy intervention for individuals with chronic pain and their significant others. The pain sufferers completed a 3-week interdisciplinary pain management program and

spouses were invited to one day of the 3-week program and completed four hours of pain management training by phone. Although marital satisfaction improved with this intervention, there were no noted improvements in pain for the sufferer.

Despite previous efforts to establish a combined pain and couples therapy model, there are no manualized standards of care that have shown durable and significant effects for this problem. One potential reason for this is that prior models used a single emphasis (i.e., pain management OR couples therapy) and appended modules of care for the other condition to broaden the scope of the intervention. The present study sought to meaningfully combine two separate interventions, each with a strong basis of evidence for treating the problem of interest (pain or relationship). Indeed, the authors have previously worked on one such integrated treatment program designed to combine manualized couples therapy with manualized intervention for posttraumatic stress disorder (PTSD). The outcomes of this combined protocol (referred to as Cognitive-Behavioral Conjoint Therapy for PTSD; [19]) showed significant improvements in both relationship satisfaction *and* PTSD suggesting that the strategy of combining two evidence-based therapies into one manualized program may be effective for other complex clinical phenomena like chronic pain.

Conjoint Therapy for Chronic Pain Management (CTPM) was developed by the authors to address chronic pain management within romantic relationships. Treatment incorporates techniques from Cognitive-Behavioral Therapy for pain as well as Cognitive-Behavioral Conjoint Therapy for Posttraumatic Stress Disorder (PTSD). Both treatments have been proven effective with chronic pain and couples respectively. We chose to use Cognitive-Behavioral Conjoint Therapy for

PTSD as the guide for relationship intervention because of its firmly established track-record of improving relationship satisfaction within the context of treating a specific presenting problem.

Cognitive-Behavioral Conjoint Therapy (CBCT) for PTSD is a time-limited, structured treatment that simultaneously targets PTSD symptoms and relationship distress with the couple relationship as the unit of treatment, so couples attend all the sessions together. CBCT for PTSD has been shown to decrease PTSD symptoms, enhance relationship functioning and satisfaction, and improve psychological wellbeing in patients and their partners (19). There are several benefits to using CBCT for PTSD to inform Conjoint Therapy for Pain Management, including: 1) CBCT has demonstrated efficacy in improving relationship satisfaction; 2) it addresses an overlap in skills required by couples dealing with PTSD and couples dealing with pain (e.g., communication training, undermining fear-based avoidance); and 3) it contributes to decreases in emotional distress and improved partner-specific mental health and coping outcomes (all identified problems in pain populations).

Our research group combined CBCT with an established and tested Cognitive-Behavioral Therapy protocol to develop Conjoint Therapy for Pain Management (CTPM). The Conjoint Therapy for Pain Management treatment protocol heavily utilizes Cognitive-Behavioral Therapy for chronic pain, which was deemed ideal for this effort due to its proven efficacy in the management of chronic pain (20). For the CTPM protocol, Cognitive-Behavioral techniques focus on managing chronic pain through psychoeducation about chronic pain, thought monitoring and challenging unrealistic thoughts, communication skills training, setting goals, imagery, pacing, acceptance, progressive muscle relaxation, and mindfulness.

The authors developed a treatment manual for Conjoint Therapy for Pain Management based upon techniques from CBCT for PTSD and CBT for pain management. Combining existing treatments into a new protocol requires a team of experts (our manual was developed through collaboration between couples treatment and pain management experts) and input from the target patient population to ensure that unforeseen needs in addressing this comorbidity can be met and that the resulting treatment will be relevant to the population of interest. Future implementation of a combined intervention for pain and relationships depends heavily on the acceptability and feasibility of uptake for such a program among patients with chronic pain and their intimate partners (e.g., significant others). This pilot study was designed to assess the current situation regarding couples and chronic pain treatment in hope of leading to more advanced research. Thus, the study team developed a Needs Assessment to help determine the gaps between current pain treatments and desired outcomes with stakeholders. Four couples recruited through the University of Texas Health San Antonio Pain Consultants Clinic participated in the Needs Assessment. Participants completed a 60-minute semi-structured interview with the study team and received \$50 as compensation for their time. The research team chose four couples for this pilot research

to balance the breadth and depth of perspectives on the CTPM program. Consistent with observations and recommendations from Carlsson and Glenton (21), the investigators considered splitting this group of couples into multiple iterations to provide a more fruitful focus group outcome. Thus, each couple was interviewed separately by the investigators resulting in four focus groups of two individuals each. Smaller groups allowed for shorter interview time, which contributed to a balance between quality and quantity of information gathered. Qualitative information gathered from the interviews was then used to refine the treatment protocol. This paper outlines themes based upon the qualitative interviews with couples suffering with chronic pain and the influence that these data had on the final CTPM manual.

Methods

The study team utilized an ethnographic interview style to elicit from couples their experiences with chronic pain and its effects upon the relationship. Additionally, the interviewers inquired about topics that would prove beneficial within a conjoint therapy pain management program based upon the couples pain experiences and previous treatments for chronic pain (See Table 1 for Needs Assessment Questions).

Table 1. Chronic Pain Needs Assessment Questionnaire

How long have you been dealing with chronic pain? Individually? As a couple?
In what ways has pain negatively impacted your relationship?
In what ways has pain positively impacted your relationship?
What pain-related medical treatments have you tried in the past? In what ways were they helpful? In what ways were they not helpful?
What pain-related behavioral treatments have you tried in the past? Individual? Group? Couples? In what ways were they helpful? In what ways were they not helpful?
If your medical treatments were successful, how would your life be different? What would you be doing?
How does your relationship support pain management? How do you individually obtain support?
What do you feel should be included in couple's treatment for chronic pain?

Study Participants

Participating couples were recruited via flyers posted at the University of Texas Health San Antonio Pain Consultants Clinic. In order to be eligible, each member of the couple had to be at least 18 years of age and English-speaking. Additionally, one member of the dyad had to have a diagnosis of chronic musculoskeletal pain lasting 6 months or longer. The presence of relationship discord was not required for eligibility. Each member of the participating dyad provided written informed consent and was compensated \$50 for their time. All aspects of this research study were approved by the University of Texas Health San Antonio Institutional Review Board in accordance with the Helsinki Declaration of the World Medical Association and interviews were conducted with the subjects' understanding and consent.

Interview Technique

Semi-structured interviews were conducted by two of the authors (CM, TB). The couples were audio-taped, and interviews lasted approximately 60 minutes. Using open-ended interview questions, the interviewers asked participants to describe their experiences with chronic pain both individually and as a couple. Additionally, questions were asked about previous chronic pain treatments and their success, how the relationship supports pain management, how the couple would function differently if chronic pain was not present, and topics that should be included within a couple's treatment for chronic pain.

Analysis

Qualitative data was gathered using a semi-structured interview format. Data was recorded and analyzed using a method similar to that described in the 2015 New Hampshire Medicaid Management Focus Groups using

two digital recorders and notes hand-written by the interviewers (22). Notes and recordings were transcribed, deidentified, and salient participant quotes from the interviews were identified. Identified quotes and preliminary themes were discussed among the study team members. The common themes were then developed into a coding scheme. The authors independently coded the interviews using the identified coding scheme. Coding was discussed amongst the study team and any differences in coding were resolved by examining the transcripts. Data was summarized into themes and analyzed using standard qualitative techniques (23).

For this paper, analysis focused upon negative and positive effects of chronic pain on the couple's relationship in an attempt to shape the intervention around the amelioration of deficits in pain-coping within the relationship and the amplification of existing strengths. Additionally, examination focused upon topics that couples felt should be included within a couple's treatment for chronic pain management. The most frequently reported responses are discussed below.

Results

Four couples (4 males; 4 females) participated in the Needs Assessment. Participants ages ranged from 33-60 ($M=47.62$; $SD=10.29$). Six of the participants were Caucasian, one identified herself as Latina, and one participant identified himself as American Indian. Two of the participating partners had prior military service. Two of the chronic pain patients suffered from primarily lower back pain, one from shoulder and back pain, and one with pelvic pain. On average, the chronic pain patients had undergone 7.5 medical treatments to alleviate their pain with a range of 4-10 medical treatments ($M=7.5$; $SD=2.65$).

Negative Impact. The participants were asked

how chronic pain has negatively impacted their current relationship. All participants stated that chronic pain had a negative impact on their relationship. The most frequent responses are detailed below.

Mood. The most common complaint regarding the negative impact of chronic pain within the relationship related to mood. Couples reported a variety of mood concerns related to the management of chronic pain within the relationship. Most often, these complaints were of depression (for both members of the couple), anxiety, anger, and irritability. One participant stated, "Due to the pain, I have one nerve left, and she is standing on it." Couples found they had increased disagreements and arguments, which they attributed to irritability and temper outbursts that often accompany chronic pain.

Couples voiced anxiety related to many aspects of chronic pain. Couples were concerned about the impact chronic pain had on employability and ultimately household finances. One participant stated, "I haven't taken vacation time over the last six months that wasn't pain related. I have no vacation days left due to pain." Both partners also expressed anxiety and "feeling overwhelmed" when confronted with the idea that the pain may never go away. Couples did not feel they were prepared for a lifetime of chronic pain. Additionally, couples reported symptoms of depression. For the pain sufferer, depression manifested in a variety of ways to include decreased energy, depressed mood, sleep problems, lack of interest in daily activities and guilt. Only one pain sufferer sought behavioral treatment (psychotherapy) for the depression related to his chronic pain and acknowledged that successfully addressing mood disruption was beneficial stating, "Once I started opening up, it helped." For spouses, much of the depressed mood was attributed to the narrowing impact that their partners' pain problem

had on their lives and to the stresses of being a caregiver. Spouses reported not feeling as though they had anyone they could turn to regarding their partner's chronic pain. One participant stated, "I need someone to talk to. I feel overwhelmed due to the stress that adds up from the pain plus life stressors." Another spouse stated, "I never thought of how stressful it is being the caregiver."

Social activities. One of the biggest impacts chronic pain had upon the relationship involved social activities. Couples reported they engaged in few social or leisure activities outside of the home due to the chronic pain. The pain sufferer would not want to leave the house in fear that the pain may increase. For example, one pain sufferer stated, "I was afraid the pain would get worse so I would avoid activities and make excuses not to go, like that I was tired or not really in the mood." This often caused friction within the relationship and was particularly difficult for the partners not suffering from chronic pain. One participant stated, "I get frustrated because our plans change due to the pain." Another spouse stated, "We can't make plans in advance because we don't know if we'll be able to keep them." Still another spouse stated, "We can't do all the things we planned to do." Given the role that behavioral activation plays in mood regulation, pain-related decreases in social/pleasurable activities are likely linked to the increases in depressive symptoms that often co-occur with chronic pain.

Sexuality/Intimacy. Chronic pain had an enormous impact upon sexual functioning and intimacy for the interviewed participants. One participant stated, "Intimacy has been a challenge for us due to the pain." According to participant report, a lack of physical intimacy often contributed to feeling psychologically or emotionally distant from one another. Most participants were unsure how to address the pain or alleviate the pain to make sexual inti-

macy possible. Although sexual intimacy is included in many relationship interventions, there are few established protocols that directly target the unique ways that chronic pain contributes to the problem. This feedback from the interviewed couples highlighted a significant need to include such a module in the CTPM treatment.

Exclusive focus. Most participants reported that their lives had become consumed by chronic pain and trying to attain pain reduction or pain management. One participant stated, "At least 40% of our conversations are focused on pain." The couples described feeling as though their lives revolved around the pain and that the pain was the driving force within the relationship. Decisions were made based upon pain levels rather than the wants or needs of the couple. A participant stated, "I am always in pain, and we value the time when the pain is not at its peak."

Positive Impact. The participants were asked how chronic pain has positively impacted their current relationship, which proved to be a difficult question for many of the couples to answer. The majority reported that they had never thought about the positive impacts of chronic pain. Most could not imagine any positive impacts on their relationship that could be related to the experience of chronic pain. The most frequent responses to this inquiry included support and patience. These are detailed below.

Support. The most common response participants gave when discussing how chronic pain has positively impacted their relationship was in the area of support. The chronic pain sufferer in particular felt that support was key to their relationship functioning. For example, one participant reported, "When she is supportive during a bad pain episode, it proves that she loves me." Another spouse stated, "We cling together when things get rough. He is always there for me, and I try to be there

for him." Most couples reported improved pain management when they felt they were "part of a team" in the effort to manage pain.

Patience. Couples reported having to have patience with one another and accepting that pain is part of their lives. One participant reported, "We've learned a lot about patience when it comes to providing care for your partner." This understanding and increased patience allowed the relationship to grow despite chronic pain. One partner stated, "Friends don't understand that at one day I can be a 5 [on the Numeric Pain Rating Scale] and the next day an eight, but my spouse understands."

Treatment Suggestions. The couples interviewed had many thoughts about what should be included into a couple's treatment for pain management. Two of the four couples interviewed had previously engaged in couples counseling in the past to address issues outside of chronic pain. Couples encouraged the researchers to include the following topics in the Conjoint Therapy for Pain Management protocol: mood management, communication skills, sexuality/intimacy, problem-solving, and perspective-taking.

Mood management. All four couples expressed a need to include components of mood management within the Conjoint Therapy for Pain Management framework. One participant stated, "I used to be really outgoing and friendly and all of this [pain] has caused me to be introverted and have anxiety and depression." This individual also reported feeling guilty for not being able to engage in all the activities she felt like she should as a wife and mother. She said, "I need help with guilt. Guilt for not being able to be the person that I think I should be or that my spouse wants me to be."

One participant wanted to make sure that the connection between physical and emotional

pain and how one can increase the other was included within the treatment protocol. She recognized that few people are aware of the impact emotional pain can have on physical pain and vice versa. She stated, "It took me a long time to recognize that my emotional pain could impact my physical pain. Realizing now that there's a link between that and the ability to get help with that is huge."

One of the partners who serves as a primary caregiver for her spouse also wanted the researchers to include mood management skills into the treatment protocol for the benefit of the partners. She voiced her own concern regarding her ability to help him both physically and emotionally. She stated, "I don't know what to do to help him emotionally, and it's really frustrating."

Communication skills. All the interviewed couples felt that it was important to improve their communication skills around the topic of chronic pain. One couple stated, "Communication is the key." Being able to talk openly about how the pain has changed the relationship or could change it in the future in a non-defensive manner was important to all four couples. One pain sufferer stated, "I can get very closed off about the pain, and it's taken me a long time to figure out that it's not the best way to cope." To improve communication skills one couple encouraged the use of role plays.

Sexuality/Intimacy. Three of the four couples expressed concerns over their ability to have sexual intercourse due to the pain. Many couples were bothered by the changes in their sex lives. One pain sufferer stated, "I can't participate (in physical intimacy) like I used to due to my back pain." Difficulty having sex impacted overall intimacy which at times caused additional stress within the relationship. One participant responded, "There were good intentions, but we just weren't connecting." Another participant said, "It's taken aw-

hile, but he's starting to love me outside of sexual intimacy." Still another replied, "It's hard to figure out how to be a couple, deal with pain, and be intimate."

Problem-solving. Couples felt that it was also important to include problem-solving techniques into the treatment protocol. This is a common couple's treatment technique, but is also important when chronic pain is involved in the relationship. One participant stated, "Include how to address roadblocks in your relationship." Another responded, "We've been doing our own thing for a while. Trying to find a way to work together on problems."

Perspective-taking. Couples expressed the need for perspective-taking within the relationship especially when chronic pain is present. This is the ability to look at a situation from another's point of view. One participant stated, "Understanding where the other person is coming from is very important." This is important not only to appreciate how the pain sufferer feels but also the partner. One partner responded, "Discuss how pain effects the spouse, not just the one with chronic pain." Additionally, another participant expressed that, "I was blind to how it [chronic pain] impacted him and the kids. He was blind at how closed off he was to my needs."

Other topics. While rarely discussed, there were additional topics that couples also expressed interest in including into a couple's format during the Needs Assessment interview. These topics included massage, exercise, the fundamentals of dealing with pain (psychoeducation), goal-setting, and increased couple activities.

Discussion

This pilot study nicely captures the pervasive impact that chronic pain can have on the wellbeing of individual pain sufferers, their romantic partners, and their relationships.

Consistent with past research (3-5), the individual pain sufferers in this study reported increases in negative mood (depression, irritability, anxiety), sleep difficulties, disability, and decreases in physical functioning, which they attributed to their chronic pain condition. The responses by the spouses echo previous findings (10) that indicate that spouses of chronic pain patients experience psychological symptoms secondary to their partner's chronic medical condition. Additionally, participants unanimously reported that chronic pain caused a negative strain upon their romantic relationship. The most frequent couple complaints regarding chronic pain included: mood problems (depression, anxiety, and irritability), decrease in social activities, exclusive focus on the pain, and problems with intimacy and sexual functioning.

These preliminary findings are consistent with the biopsychosocial model of chronic pain (25, 26), which asserts that chronic pain can have a deleterious impact on physical, emotional, cognitive, behavioral, and interpersonal domains of functioning. Of note, the majority of respondents in this study focused on the effect that chronic pain has had on their functioning (i.e., "The pain makes my mood symptoms worse"). However, according to the biopsychosocial model of chronic pain, the relationships between chronic pain and the five domains of functioning are both multidirectional and dynamic. As such, chronic pain not only impacts individual functioning but one's ability to manage chronic pain is influenced by one's level of functioning across each of the domains. Functioning within each of the individual domains can influence functioning across the other domains in a way that can either enhance or inhibit pain management.

To illustrate these concepts, consider a pain sufferer who has planned to go for a walk but has the thought "If I go for a walk, I will only

hurt worse" (pain impacting cognitions). This person is less likely to go walking (cognitive domain interacting with the behavioral domain). If the person repeatedly withdraws from activities that bring him enjoyment or a sense of mastery, he is more likely to experience negative mood (behavioral domain impacting emotional domain), which in turn may contribute to further behavioral disengagement, social withdrawal, and more mood symptoms (emotional domain impacting behavioral and interpersonal functioning). According to the gate control theory of pain (25, 27), negative mood increases perceptions of pain severity. Mood symptoms, coupled with increased pain, can contribute to additional unhelpful thoughts and lower physical activity (emotional domain impacting cognitive and behavioral domains). Overtime, the dynamic interplay of these factors can create a cycle of pain-related dysfunction and disability.

A system-based perspective of chronic pain suggests that a similar pattern of interactions occurs within the context of relationships. For example, previous findings indicate that chronic pain is associated with less active family leisure time (28), which again can lead to lower physical resilience to pain. Furthermore, if chronic pain episodes repeatedly disrupt couple-based activities, it can contribute to increased mood symptoms for both partners, lower levels of intimacy, increased interpersonal conflict, and overall decreased relationship satisfaction. In turn, these factors may decrease the couple's desire to spend time together, create further disruption to the relationship, increase negative emotionality in both partners, and ultimately decrease support for the individual pain sufferer.

Research that adopts a system-based perspective of chronic pain is gaining more support in the literature. Recent findings document the complex relations between partner interactions and chronic pain experiences.

For examples, in a sample of 105 married couples who completed electronic diary entries five times per day for two weeks (29), pain sufferers' perceptions of spousal criticism and hostility was associated with concurrent reports of their pain severity and their spouses' report of pain-related behaviors. Interestingly, perceptions of spousal criticism were associated with subsequent elevations in pain severity, and increases in reports of their pain severity were related to subsequent decreases in their perceptions of spousal criticism.

Each of the couples in this pilot study commented on the presence of anger in their relationship, which they attributed to the chronic pain. In a study using secondary analyses of the data described above, Burns *et al.*, (30) found that anger arousal and expression was concurrently associated with decreases in pain patients' perceived spousal support and increases in spouses' reports of hostility. Importantly, greater anger responses were associated with spouses' subsequent report of hostility towards their pain partners. This pattern of interactions may contribute to poorer responses during conflict and make emotional regulation within the relationship more difficult (Leong, Cano, & Johansen, 2011). Poorer emotional regulation and lower relationship satisfaction may begin to erode autonomous motivation to help partners' with chronic pain. Autonomous motivation (i.e., an inherent drive to help versus feeling pressured to help) has been linked with less emotional distress in the spouse, lower levels of caregiver burn-out, and better outcomes for the pain sufferers (31).

With few exceptions (e.g., feeling supported; learning patience), couples in this study struggled to describe ways that chronic pain had positively impacted their relationship. The minority of respondents who were able to

identify positive consequences highlighted the benefits of having an empathic partner and being a member of the team. Their report is consistent with the intimacy process model of interaction (32, 33), which links higher levels of relationship intimacy and satisfaction to partners' empathic and validating responses to emotional disclosures. According to Cano and Williams (34), pain-related communication is sometimes an attempt to increase intimacy and garner support through emotional disclosure. This conceptualization supports the use of emotionally-focused communication activities that facilitate discussion on pain within a conjoint treatment. However, many factors (e.g., gender of the pain sufferer, frequency of pain-related disclosures, and levels of pain severity) can influence the role that empathic responses may play in pain management (35, 36). Therefore, therapists treating chronic pain within a relational framework may have to shape the ways in which couples share and respond to pain-related disclosures to ensure that the communication is helpful for maintaining intimacy while also enhancing pain-related functioning within the dyad.

Prior to their study participation, the pain participants explored multiple medical interventions for their chronic pain condition including: medications, injections, surgeries, and/or physical/occupational therapies. Unfortunately, despite undergoing an average of 7.5 different medical interventions, medical treatments alone were insufficient to alleviate their suffering. For these patients, psychological treatments that focus on behavioral strategies for pain management may prove beneficial as an adjunctive or a stand-alone treatment. However, less than half of our participants had attempted behavioral interventions. In particular, one pain sufferer had previously participated in a functional restoration group. Consistent with McGeary *et al.* (24), he benefitted on an individual level; however, he

did not report significant changes to his relationship as a result of this participation. One couple had also previously participated in general couple's therapy. Based on their reports, general couple's therapy was somewhat helpful for their relationship satisfaction but did not alleviate any of their relationship dysfunction surrounding the chronic pain complaint. These examples provide anecdotal support for the limitations associated with focusing exclusively on the individual pain sufferer or on the general couple's functioning. Given the bidirectional, interpersonal impact of chronic pain on outcomes, including partners in treatment that specifically focuses on behavioral management of chronic pain may improve chronic pain treatment outcomes while simultaneously improving relationship satisfaction.

Altogether, findings of this pilot study suggest that the impact of chronic pain extends well beyond the individual sufferer and supports the adoption of a more systematic approach to the conceptualization and treatment of chronic pain. Notably, each of the four couples expressed interest in participation in a couple's treatment for pain management, and each couple recommended topics that they believed would be helpful to add to the Conjoint Therapy for Pain Management (CTPM) protocol. These topics included: communication skills training, mood management, sexuality, problem-solving, and perspective taking. During the interviews, pain sufferers identified increased perceptions of social support from their partners as a positive impact of pain. This feedback (along with findings from a previously published study by our research group; [24]) encouraged the research team to maximize the focus of appropriate social support in the CTPM manual.

Limitations

This pilot study adds to the research that currently exists on chronic pain within the context of romantic relationships and establishes guidelines for the treatment of chronic pain in a conjoint setting that requires further in-depth study. However, there are several limitations that require attention. First, since the needs assessment was the first phase of a small pilot study, the sample consists of only four couples. This small sample size significantly limits the generalizability of these results. However, this is offset by the fact that the investigators used multiple, iterative interviews to maximize the quality and quantity of data derived from the small sample, and the information obtained from these couples is consistent with information found in larger studies. The small sample prevented the examination of gender differences. This is a notable limitation given the differential interpersonal patterns that are found in couples with a male versus female pain sufferer (e.g., 30, 35, 37). The generalizability of these results is also potentially limited by a self-selection bias and the inclusion criteria. In order to be eligible for the study, both members of the couples had to be willing to participate. Consequently, these results may not be relevant for couples in which only one-half of the dyad is interested or invested in considering a couple's perspective on chronic pain. Unfortunately, these distressed couples are less likely to present together for treatment at all, and once the CTPM is finalized and tested the investigators will consider optional modules or preparatory clinical activities that can be used to prepare these distressed couples for conjoint intervention. The needs assessment also focused on romantic partners. Therefore, the findings do little to illuminate the impact of chronic pain on other meaningful relationships. Further research in these areas is warranted.

Conclusions

As a result of the Needs Assessment that was conducted as part of this pilot study, the treatment manual now includes modules on the following topics: stress management, communication skills training, intimacy/sexual functioning, increasing pleasurable activities, mood management, developing individual and couple goals, problem-solving, addressing emotions related to chronic pain, and perspective taking. The inclusion of these topics is consistent with both Cognitive-Behavioral treatment for chronic pain and Cognitive-Behavioral Conjoint Therapy. By combining two well-supported interventions, we have established guidelines for a manualized, couples-based pain management program that simultaneously targets complex chronic pain while also placing focus on the enhancement of relationship skills.

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